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(43) International Publication Date 6 December 2001 (06.12.2001)

**PCT** 

(10) International Publication Number WO 01/91581 A3

(51) International Patent Classification7:

A23L 1/164

(21) International Application Number: PCT/US01/17090

(22) International Filing Date: 25 May 2001 (25.05.2001)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/207,939

27 May 2000 (27.05.2000) US

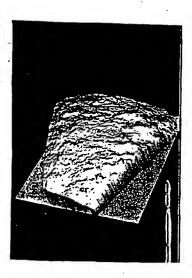
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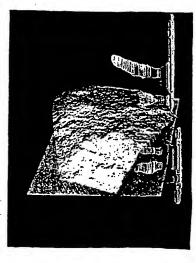
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- (81) Designated States (national): AE, AG, AL, AM, AT, AT (utility model), AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ (utility model), DE, DE (utility model), DK, DK (utility model), DM, DZ, EE, EE (utility model), ES, FI, FI (utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE)

[Continued on next page]

(54) Title: TORTILLA CHIPS WITH CONTROLLED SURFACE BUBBLING





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(57) Abstract: Uniformly shaped snack chips, preferably tortilla-type chips, having raised surface features and a method for preparing the same. The chips can be made from a dough composition comprising pre-cooked starch-based material and pregelatinized starch. Preferably, the snack chips have raised surface features comprising from about 12 % to about 40 % large surface features; from about 20 % to about 40 % medium surface features; and from about 25 % to about 60% small surface features. In one embodiment, the average thickness of the snack chip is from about 1 mm to about 3 mm; the average thickness of raised surface features is from about 2.3 mm to about 3.2 mm; the maximum thickness of the chip is less than about 5.5 mm; and the coefficient of variation of the chip thickness is greater than about 15 %.

1/91581

IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). (88) Date of publication of the international search report: 21 March 2002 21 March 2002

### Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guid-ance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

## INTERNATIONAL SEARCH REPORT

Intr ntional Application No PC I/US 01/17090

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 A23L1/164

According to International Patent Classification (IPC) or to both national classification and IPC

#### B. FIELDS SEARCHED

 $\begin{array}{ll} \mbox{Minimum documentation searched (classification system tollowed by classification symbols)} \\ \mbox{IPC 7} & \mbox{A23L} & \mbox{A21B} & \mbox{A47J} \end{array}$ 

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, EPO-Internal, FSTA

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to daim No.	
X	WO 99 20125 A (PROCTER & GAMBLE) 29 April 1999 (1999-04-29) figures	1-11	
	page 1, paragraph 3 -page 9, paragraph 7 page 17, paragraph 3 - paragraph 4; examples		
<b>X</b>	US 4 994 295 A (HOLM DAVID ET AL) 19 February 1991 (1991-02-19) figures column 1, paragraph 2 column 4, paragraph 4 -column 6, paragraph 2	1-11	
	column 8, paragraph 3 column 9, line 51 -column 12, line 45 column 13, line 5 - line 30 examples		
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Date of the actual completion of the international search	Date of mailing of the international search report
7 December 2001	17/12/2001
Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tet. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Vuillamy, V

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## INTERNATIONAL SEARCH REPORT

Intrational Application No
PUI/US 01/17090

	tion) DOCUMENTS CONSIDERED TO BE RELEVANT  Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
Category *	оканон от оосолиеть, with moncation, where appropriate, от the few value passages	PICICYAIN IQ CIAINA INO.	
X	US 4 861 609 A (WILLARD MILES J ET AL) 29 August 1989 (1989-08-29) column 2, line 55 -column 4, line 68 examples	1-11	
X	US 5 400 704 A (HUSTON ROY) 28 March 1995 (1995-03-28) column 2, line 18 - line 44 column 4, line 37 - line 39	1-11	
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## INTERNATIONAL SEARCH REPORT

information on patent family members

Intrational Application No
PCI/US 01/17090

Patent document cited in search report	Publication date	٠.	Patent family member(s)	Publication date
WO 9920125 A	29-04-1999	AU	1098599 A	10-05-1999
	•	BR	9813130 A	15-08-2000
		CN	1280462 T	17-01-2001
		EP	1024707 A1	09-08-2000
		JP	2001520029 T	30-10-2001
	•	WO	9920125 A1	29-04-1999
		US	6228414 B1	08-05-2001
•		US	2001024674 A1	27-09-2001
•		US	2001038877 A1	08-11-2001
US 4994295 A	19-02-1991	US	. 4931303 A	05-06-1990
		CA	1321916 A1	.07-09-1993
		DE	68909424 D1	04-11-1993
		DE	68909424 T2	28-04-1994
		ΕP	0324460 A2	<b>19-07-1989</b> .
		HK	128594 A	25-11-1994
•		JP	1215257 A	29-08-1989
·		JP	2604460 B2	30-04-1997
•		KR	9611517 B1	23-08-1996
· ·	•	PH	25888 A	02-12-1991
	·	SG	130294 G	13-01-1995
US 4861609 A	29-08-1989	NONE		
US 5400704 A	28-03-1995	US	5236727 A	17-08-1993